

CALIFORNIA REGIONAL WATER QUALITY CONTROL BOARD
CENTRAL VALLEY REGION

WASTE DISCHARGE REQUIREMENTS ORDER NO. R5-2009-____
FOR
BUTTONWILLOW COUNTY WATER DISTRICT
WASTEWATER TREATMENT FACILITY
KERN COUNTY

The California Regional Water Quality Control Board, Central Valley Region, (hereafter Central Valley Water Board), finds that:

1. Waste Discharge Requirements (WDRs) Order No. 85-303, adopted by the Central Valley Water Board on 25 October 1985, for Buttonwillow County Water District (Discharger), regulates its wastewater treatment facility (WWTF) located in the northeast quarter of Section 13, Township 29S, Range 23E, Mount Diablo Base & Meridian (MDB&M), and approximately a quarter of a mile northeast of the unincorporated community of Buttonwillow in Kern County. Buttonwillow had a population of 1,266 and a land area of about 7 square miles for Census 2000.
2. WDRs Order No. 85-303 authorizes a discharge of 0.2 million gallons per day (mgd) of treated wastewater to a storage pond and to 50 acres of Use Area owned by the Discharger. Revised MRP No. 85-303 requires the Discharger to conduct effluent monitoring for electrical conductivity, chloride, sodium, biochemical oxygen demand, total suspended solids, total nitrogen, and general minerals. Section 60304 of Title 22 allows the use of undisinfected secondary treated effluent for the application of seed crops not eaten by humans, food crops that must undergo a commercial pathogen destroying process prior to being consumed by humans, and pasture for animals that do not produce milk for human consumption.
3. In September 2008, the Discharger submitted a Report of Waste Discharge (RWD) for a proposed WWTF upgrade. WDRs Order No. 85-303 needs to be updated to ensure that the discharge is consistent with Central Valley Water Board Plans and policies, prescribe requirements that reflect changes the Discharger will make to its WWTF, and facilitate funding for the WWTF upgrade.

Wastewater Treatment Facility

4. The existing WWTF consists of an Imhoff tank, a storage pond, a sludge drying bed, and 50-acre Use Area.
5. The proposed WWTF will include two treatment trains, each with a capacity of 0.075 mgd, for a total designed daily average flow of 0.15 mgd. The upgrade will include: replacement of sewer trunk line, 1,000 feet of sewer main, a lift station, mechanical bar screen, two equalization tanks, two denitrification tanks, two Bio-tanks, two membrane tanks, two aerated sludge tanks, three concrete-lined sludge drying beds, two 22.5-acre-ft unlined storage ponds, and approximately 50 acres of Use Area.

A site map of the WWTF is shown on [Attachment A](#) and a process flow schematic is shown on [Attachment B](#), both of which are attached hereto and made part of this Order by reference.

6. The existing deteriorated sludge drying beds are a potential source of groundwater degradation. The proposed concrete-lined drying beds should minimize any impact to groundwater. The Discharger is proposing to haul the dried sludge off site.
7. Data from January 2007 through December 2008 contained in the Discharger's Self-Monitoring Reports (SMRs) characterize the discharge as follows:

<u>Constituent/Parameter</u>	<u>Units</u>	2008	
		<u>Influent</u>	<u>Effluent</u>
pH	pH units	7.61	7.23
Electrical Conductivity (EC) ¹	µmhos/cm	2,000	1,900
Biochemical Oxygen Demand (BOD)	mg/L	160	130
Total Suspended Solids (TSS)	mg/L	100	70
Settleable Solids	mL/L	---	0.22
Chloride	mg/L	---	300
Sodium	mg/L	---	200
Nitrate (as N)	mg/L	---	0.12
Total Kjeldahl Nitrogen (TKN)	mg/L	---	40
Total Nitrogen (TN)	mg/L	---	40

¹ The monitoring indicates EC was greater than effluent EC, but the data set was small and the difference minor relative to the accuracy of the meters.

8. The existing Imhoff tank is about 50 years old and does not adequately treat wastewater.
9. According to the RWD, the proposed WWTF will produce an effluent that will meet average BOD and TSS concentrations of 40 mg/L, and an average Total Nitrogen concentration of less than 10 mg/L.

Sanitary Sewer Overflows

10. A "sanitary sewer overflow" is defined as a discharge to ground or surface water from the sanitary sewer system at any point upstream of the treatment facility. Temporary storage and conveyance facilities (such as wet wells, regulated impoundments, tanks, highlines, etc.) may be part of a sanitary sewer system and discharges to these facilities are not considered sanitary sewer overflows, provided that the waste is fully contained within these temporary storage/conveyance facilities.
11. On 2 May 2006, the State Water Resources Control Board (hereafter State Water Board) adopted General Sanitary Sewer Systems Order (State Water Board Water Quality Order No. 2006-0003-DWQ, "Statewide General Waste Discharge Requirements

for Sanitary Sewer Systems"). The General Order requires all public agencies that own or operate sanitary sewer systems greater than one mile in length to comply with this order. The Discharger's collection system is greater than one mile in length; therefore, the Discharger applied for, and is covered by, the General Order.

Water Recycling

12. The Use Area consists of approximately 50 acres of Use Area owned by the Discharger leased to Hay Brothers to grow alfalfa hay. The District will generate about three acre-feet per acre of wastewater per year. Alfalfa crops in the area require more than three acre-feet per acre of irrigation water per year, and supplemental irrigation water will be needed to meet crop demand.
13. Nitrogen uptake rates for alfalfa are 480 lb/acre/year, based on the *Western Fertilizer Handbook, 9th Edition*.
14. Nitrogen in the wastewater will be further reduced by the crops during irrigation. At the permitted flow of 0.15 mgd and an average nitrogen concentration of 10 mg/L, the total nitrogen loading to the 50-acres of Use Area is about 90 lbs/acre/year, which will not exceed the nutrient loading at agronomic rates, based on the current cropping pattern.

Site-Specific Conditions

15. The WWTF and Use Area are in an arid climate characterized by dry summers and mild winters. The rainy season generally extends from November through March. Occasional rains occur during spring and fall months, but summer months are dry. Average annual evaporation in the discharge area is about 65 inches, according to information published by the California Department of Water Resources (DWR). The 30-year normal precipitation in the discharge area is about 6.44 inches, according to the National Weather Service Forecast Office. According to the DWR, the annual precipitation with a 100-year return period is approximately 11.69 inches.
16. Soils in the vicinity of the WWTF are predominately Milham Sandy Loam, followed by Lokern Clay, according to the Web Soil Survey published by the United States Department of Agriculture Natural Resources Conservation. Milham Sandy Loam and Lokern Clay have been assigned a land capacity classification of 1 and 3S, respectively. These soils have slight to severe limitations that restrict the choice of plants or that require special conservation practices, or both. These soils have limitations within the root zone, such as shallowness of the root zone, a high content of stones, a low available water capacity, low fertility, or excessive salinity.
17. Types of crops that can be grown in the vicinity of the WWTF include: grain and hay crops, pasture, and field crops, according to the Kern County 1998 Land Use Map

published by the DWR. This is not a definitive inventory of crops that are or could be grown in the area.

18. According to the Federal Emergency Management Agency maps (community-panel number 060075 0975 B), the WWTF is located within Zone C, an area of minimal flooding.
19. The Discharger is not required to obtain coverage under a National Pollutant Discharge Elimination System General Industrial Storm Water Permit for the WWTF because all storm water runoff is retained onsite and does not discharge to a water of the United States.

Groundwater Considerations

20. WDRs Order No. 85-303 characterizes groundwater in the discharge area as follows: unconfined groundwater occurs at a depth ranging from 50 to 70 feet below ground surface, flows in a northeast direction, and exhibits an EC of about 1,500 $\mu\text{mhos/cm}$, which corresponds to an approximate total dissolved solids (TDS) concentration of 980 mg/L ($\text{TDS} = 0.65 \times \text{EC}$).
21. The EC and TDS are approximately 1,500 $\mu\text{mhos/cm}$ and 1,000 mg/L, respectively, in the unconfined aquifer and about 770 $\mu\text{mhos/cm}$ and 500 mg/L, respectively in the confined aquifer, based on water quality maps in a 1999 Water Supply Report developed by the Kern County Water Agency (KCWA) and published in May 2003. This represents background water quality of the unconfined aquifer and likely represents natural conditions.
22. The Discharger gets its source water from three water supply wells (Wells 2, 3 and 4). The Discharger does not report flow-weighted averages for source water EC due to inaccurate pump flow meter readings. The straight (i.e., not flow-weighted) average source water EC based on data contained in the Discharger's SMRs from January through December 2008 is approximately 1,100 $\mu\text{mhos/cm}$.

Basin Plan, Beneficial Uses, and Water Quality Objectives

23. The *Water Quality Control Plan for the Tulare Lake Basin, Second Edition, revised January 2004* (hereafter Basin Plan) designates beneficial uses, establishes narrative and numerical water quality objectives, contains implementation plans and policies for protecting all waters of the Basin, and incorporates, by reference, plans and policies of the State Water Board. Pursuant to Section 13263(a) of the California Water Code (CWC), these requirements implement the Basin Plan.
24. Water in the Tulare Lake Basin is in short supply, requiring importation of surface water from other parts of the State. The Basin Plan encourages recycling on irrigated crops

wherever feasible and indicates that evaporation of recyclable wastewater is not an acceptable permanent disposal method where the opportunity exists to replace an existing use or proposed use of fresh water with recycled water.

25. The WWTF is in Detailed Analysis Unit (DAU) No. 255 within the Kern County Basin hydrologic unit. The Basin Plan identifies the beneficial uses of groundwater in this DAU as municipal and domestic supply, agricultural supply, industrial service supply, and wildlife habitat supply.
26. The nearest surface water is the East Side Canal. The WWTF is in the Semitropic Hydraulic Area (No. 558.70), as depicted on interagency hydrologic maps prepared by the DWR in August 1986. The Basin Plan identifies the beneficial uses for valley floor waters as agricultural supply, industrial service and process supply, water contact recreation, non-contact water recreation, warm freshwater habitat, wildlife habitat, rare, threatened, or endangered species, and groundwater recharge.
27. The Basin Plan includes a water quality objective for chemical constituents that, at a minimum, require waters designated as domestic or municipal supply to meet the maximum contaminant levels (MCLs) specified in Title 22 of the California Code of Regulations (CCR). The Basin Plan recognizes that the Central Valley Water Board may apply limits more stringent than MCLs to ensure that waters do not contain chemical constituents in concentrations that adversely affect beneficial uses.
28. The Basin Plan establishes narrative water quality objectives for Chemical Constituents, Taste and Odors, and Toxicity. The Toxicity objective, in summary, requires that groundwater be maintained free of toxic substances in concentrations that produce detrimental physiological responses in human, plant, animal, or aquatic life associated with designated beneficial uses. Quantifying a narrative water quality objective requires a site-specific evaluation of those constituents that have the potential to impact water quality and beneficial uses.
29. The Basin Plan identifies the greatest long-term problem facing the entire Tulare Lake Basin as the increase in salinity in groundwater, which has accelerated due to the intensive use of soil and water resources by irrigated agriculture. The Basin Plan recognizes that degradation is unavoidable until there is a long-term solution to the salt imbalance. Until then, the Basin Plan establishes several salt management requirements, including:
 - a. The incremental increase in salts from use and treatment must be controlled to the extent possible. The maximum EC of the effluent discharged to land shall not exceed the EC of the source water plus 500 $\mu\text{mhos/cm}$. When the source water is from more than one source, the EC shall be a weighted average of all sources.

- b. Discharges to areas that may recharge good quality groundwater shall not exceed an EC of 1,000 $\mu\text{mhos/cm}$, or boron content of 1.0 mg/L.
- 30. The underlying groundwater is not good quality and the supply water exceeds an EC of 1,000 $\mu\text{mhos/cm}$, so one cannot expect that the Discharger could comply with an effluent limit of 1,000 $\mu\text{mhos/cm}$. Because the Discharger has no accurate record of pumping from water supply wells, one cannot determine if the Discharger complies with the Basin Plan EC limit of no greater than 500 $\mu\text{mhos/cm}$ over source water. The Discharger needs to implement better monitoring of its source water and review and implement salinity reduction measures.
- 31. The Basin Plan requires municipal WWTFs that discharge to land to comply with treatment performance standards for BOD and TSS. WWTFs that preclude public access and are greater than 1 mgd must provide removal of 80 percent or reduction to 40 mg/L, whichever is more restrictive, for both BOD and TSS.

Antidegradation Analysis

- 32. State Water Board Resolution No. 68-18 (the Antidegradation Policy) requires that the Regional Water Board, in regulating the discharge of waste, must maintain the high quality of waters of the state until it is demonstrated that any change in quality will be consistent with maximum benefit to the people of the state, will not unreasonably affect beneficial uses, and will not result in water quality less than that described in the Regional Water Board's policies (e.g., quality that exceeds water quality objectives). Resolution No. 68-16 also requires that waste discharged to high quality water be required to meet WDRs that will result in the best practicable treatment or control of the discharge. Resolution No. 68-16 prohibits degradation of groundwater quality as it existed in 1968, or at any time thereafter that groundwater quality was better than in 1968, other than degradation that was previously authorized. An antidegradation analysis is required for an increased volume or concentration of waste.
- 33. The permitted discharge will not increase mass emissions of pollutants. The wastewater facilities serve primarily domestic flow with no significant industrial flow. The constituents of concern are nitrates and total dissolved solids (TDS). The upgrade will decrease mass emission of nitrates, because of better treatment. Therefore, the discharge is in compliance with the Antidegradation Policy.

Treatment and Control Practices

- 34. The WWTF described in Finding Nos. 5 through 9, will provide treatment and control of the discharge that incorporates:
 - a. Secondary treatment;

- b. Nitrogen reduction of wastewater; and
- c. Recycling of wastewater for crop irrigation.

Water Recycling Criteria

- 35. Domestic wastewater contains pathogens harmful to humans that are typically measured by means of total or fecal coliform, as indicator organisms. The California Department of Public Health (DPH), which has primary statewide responsibility for protecting public health, has established statewide criteria in Title 22, CCR, Section 60301 et seq., (hereafter Title 22) for the use of recycled water and has developed guidelines for specific uses.
- 36. A 1988 Memorandum of Agreement (MOA) between DPH and the State Water Board on the use of recycled water establishes basic principles relative to the agencies and the regional water boards. In addition, the MOA allocates primary areas of responsibility and authority between these agencies, and provides for methods and mechanisms necessary to assure ongoing, continuous future coordination of activities relative to the use of recycled water in California.
- 37. State Water Board Resolution No. 77-1, ("Policy with Respect to Water Recycling in California"), encourages recycling projects that replace or supplement the use of fresh water, and the Water Recycling Law (CWC Section 13500-13529.4) declares that utilization of recycled water is of primary interest to the people of the State in meeting future water needs.
- 38. The Basin Plan encourages recycling on irrigated crops wherever feasible and indicates that evaporation of recyclable wastewater is not an acceptable permanent disposal method where the opportunity exists to replace an existing use or proposed use of fresh water with recycled water. The Basin Plan also requires project reports for new or expanded wastewater facilities shall include plans for wastewater recycling or the reason why it is not possible.
- 39. Title 22, Section 60323, requires recyclers of treated municipal wastewater to submit an engineering report detailing the use of recycled water, contingency plans, and safeguards. The Discharger has submitted a Title 22 Engineering Report to the Department of Public Health, but it has not been approved. A provision requiring the Discharger to submit an updated report reflecting the comments made by DPH pursuant to Title 22 of the CCR is included in this Order.

Other Regulatory Considerations

- 40. The United States Environmental Protection Agency (EPA) has promulgated biosolids reuse regulations in Title 40, Code of Federal Regulations, Part 503, Standards for the

Use or Disposal of Sewage Sludge, which establishes management criteria for protection of ground and surface waters, sets application rates for heavy metals, and establishes stabilization and disinfection criteria. The Discharger may have separate and/or additional compliance, reporting, and permitting responsibilities to EPA.

41. The Discharger will treat the wastewater to secondary treatment standards and reduce the nitrates to less than primary drinking water standards. The effluent will be stored for reuse by irrigation of crops, which will provide further reduction in pollutants (primarily nitrates). The effluent EC quality (about 1,900 $\mu\text{mhos/cm}$) is similar in quality to background (about 1,500 $\mu\text{mhos/cm}$). The discharge flow is low. The ponds will be constructed of native soils that are only moderately drained. The background water quality for EC of the unconfined aquifer exceeds the recommended consumer acceptance contaminant level of 900 $\mu\text{mhos/cm}$, but not the upper level of 1,600 $\mu\text{mhos/cm}$. The minimal seepage from the storage pond or percolation from recycling is not expected to be great enough to cause groundwater to exceed the upper EC level. For these reasons the discharge is exempt from the requirements of *Consolidated Regulation for Treatment, Storage, Processing, or Disposal of Solid Waste*, as set forth in Title 27, CCR, Division 2, Subdivision 1, Section 20005, et seq., (Title 27).

CEQA

42. Buttonwillow County Water District adopted a Mitigated Negative Declaration (SCH # 2006111131) for the WWTF upgrade project in accordance with the California Environmental Quality Act (CEQA) and filed a Notice of Determination on 11 May 2007.
43. Central Valley Water Board staff reviewed the Mitigated Negative Declaration and concurred with the conclusion that the project would be an improvement over the existing discharge and that the discharge would not have a significant impact on water quality particularly because the effluent quality will improve but the volume will not increase. This Order includes effluent limits for EC, BOD, TSS and nitrogen. Compliance with these will mitigate any significant impacts to water quality.

General Findings

44. Based on the threat and complexity of the discharge, the facility is determined to be classified 2-B as defined below:
 - a. Category 2 threat to water quality, defined as, "Those discharges of waste that could impair the designated beneficial use of the receiving water, cause short term violation of water quality objectives, cause secondary drinking water standards to be violated, or cause a nuisance."

- b. Category B complexity, defined as, "Any discharger not included above that has physical, chemical, or biological treatment systems (except or septic systems with subsurface disposal) or any Class 2 or 3 waste management units."
- 45. Pursuant to CWC Section 13263(g), discharge is a privilege, not a right, and adoption of this Order does not create a vested right to continue the discharge.
- 46. The Central Valley Water Board will review this Order periodically and will revise requirements when necessary.
- 47. CWC Section 13267(b) states that: "In conducting an investigation specified in subdivision (a), the Central Valley Water Board may require that any person who has discharged, discharges, or is suspected of having discharged or discharging, or who proposes to discharge waste within its region, or any citizen or domiciliary, or political agency or entity of this state who has discharged, discharges, or is suspected of having discharged or discharging, or who proposes to discharge, waste outside of its region that could affect the quality of waters within its region shall furnish, under penalty of perjury, technical or monitoring program reports which the Central Valley Water Board requires. The burden, including costs, of these reports shall bear a reasonable relationship to the need for the report and the benefits to be obtained from the reports. In requiring those reports, the Central Valley Water Board shall provide the person with a written explanation with regard to the need for the reports, and shall identify the evidence that supports requiring that person to provide the reports."
- 48. The technical reports required by this Order and monitoring reports required by the attached Monitoring and Reporting Program (MRP) No. R5-2009-____ are necessary to assure compliance with these waste discharge requirements. The Discharger operates the WWTF that discharges the waste subject to this Order.
- 49. DWR set standards for the construction and destruction of groundwater wells, as described in California Well Standards Bulletin 74-90 (June 1991) and Water Well Standards: State of California Bulletin 94-81 (December 1981). These standards, and any more stringent standards adopted by the State or county pursuant to CWC Section 13801, apply to all monitoring wells.

Public Notice

- 50. All the above and the supplemental information and details in the attached Information Sheet, which is incorporated by reference herein, were considered in establishing the following conditions of discharge.
- 51. The Discharger and interested agencies and persons have been notified of the intent to prescribe waste discharge requirements for this discharge, and they have been provided

an opportunity for a public hearing and an opportunity to submit their written views and recommendations.

52. All comments pertaining to the discharge were heard and considered in a public meeting.

IT IS HEREBY ORDERED that Waste Discharge Requirements Order No. 85-303 is rescinded and that, pursuant to Sections 13263 and 13267 of the California Water Code, Buttonwillow County Water District and its agents, successors, and assigns, in order to meet the provisions contained in Division 7 of the CWC and regulations adopted thereunder, shall comply with the following:

A. Prohibitions

1. Discharge of waste to surface waters or surface water drainage courses is prohibited.
2. Bypass or overflow of untreated wastes, except as allowed by Standard Provision E.2 in *Standard Provisions and Reporting Requirements for Waste Discharge Requirements*, dated 1 March 1991, is prohibited.
3. Discharge of waste classified as 'hazardous', as defined in Section 2521(a) of Title 23, CCR, Section 2510 et seq., is prohibited. Discharge of waste classified as 'designated', as defined in CWC Section 13173, in a manner that causes violation of groundwater limitations, is prohibited.

B. Effluent Limitations

1. Effluent shall not exceed the following limitations:

<u>Constituent</u>	<u>Units</u>	<u>Monthly Average</u>	<u>Daily Maximum</u>
BOD ₅ ¹	mg/L	40	80
TSS ²	mg/L	40	80

¹ Five day biochemical oxygen demand (BOD₅)

² Total suspended solids (TSS)

The arithmetic mean of BOD and TSS in effluent samples collected over a monthly period shall not exceed 20 percent of the arithmetic mean of the values for influent samples collected at approximately the same times during the same period (80 percent removal).

2. The 12-month rolling average EC of the discharge shall not exceed the 12-month rolling average EC of the source water plus 500 µmhos/cm. Compliance with this effluent limitation shall be determined monthly.

3. After Provision G.19 is satisfied, the Total Nitrogen in effluent discharged to the effluent pond or Use Area shall not exceed the monthly average of 10 mg/L.

C. Discharge Specifications

1. The monthly average discharge flow shall not exceed 0.15 mgd. If the Discharger can show that the treatment facility is capable of treating additional flow (see Provision G. 20) the Executive Officer may approve a flow increase up to 0.20 mgd.
2. All conveyance, treatment, storage, and disposal units shall be designed, constructed, operated, and maintained to prevent inundation or washout due to floods with a 100-year return frequency.
3. Public contact with effluent (treatment works, Ponds, Use Area) shall be precluded through such means as fences, signs (in accordance with Title 22, CCR Section 60310(g)), or acceptable alternatives.
4. Objectionable odors shall not be perceivable beyond the limits of the WWTF property at an intensity that creates or threatens to create nuisance conditions.
5. Effluent storage ponds shall have sufficient capacity to accommodate allowable wastewater flow and design seasonal precipitation and ancillary inflow and infiltration during the winter. Design seasonal precipitation shall be based on total annual precipitation using a return period of 100 years, distributed monthly in accordance with historical rainfall patterns.
6. On or about **1 October** of each year, available effluent pond storage capacity shall at least equal the volume necessary to comply with Discharge Specification C.5.
7. Ponds shall be managed to prevent breeding of mosquitoes. In particular,
 - a. An erosion control plan should assure that coves and irregularities are not created around the perimeter of the water surface.
 - b. Weeds shall be minimized through control of water depth, harvesting, and herbicides.
 - c. Dead algae, vegetation and other debris shall not accumulate on the water surface.
 - d. Vegetation management operations in areas in which nesting birds have been observed shall be carried out either before or after, but not during, the 1 April to 30 June bird nesting season.

8. No waste constituent shall be released or discharged, or placed where it will be released or discharged, in a concentration or in a mass that caused violation of groundwater limitations.

D. Recycling Specifications

The following specifications apply to the Use Area under the ownership or control of the Discharger.

1. Use of undisinfected secondary treated recycled water shall be limited to flood irrigation of fodder, fiber, and seed crops not eaten by humans or for gazing of non-milking cattle and shall comply with the provisions of Title 22.
2. The Discharger will maintain the following setback distances from areas irrigated with recycled water:

<u>Setback Distance (feet)</u>	<u>To</u>
25	Property Line
30	Public Roads
50	Drainage Courses
100	Irrigation Wells
150	Domestic Wells

3. No physical connection shall exist between recycled water piping and any domestic water supply or domestic well, or between recycled water piping and any irrigation well that does not have an air gap or reduce pressure principle device.
4. The perimeter of the Use Area shall be graded to prevent ponding along public roads or other public areas and prevent runoff onto adjacent properties not owned or controlled by the Discharger.
5. Areas irrigated with recycled water shall be managed to prevent nuisance conditions or breeding of mosquitoes. More specifically:
 - a. All applied irrigation water must infiltrate completely within a 48-hour period;
 - b. Ditches not serving as wildlife habitat should be maintained free of emergent, marginal, and floating vegetation; and
 - c. Low-pressure and unpressurized pipelines and ditches accessible to mosquitoes shall not be used to store recycled water.
6. Recycling of WWTF effluent shall be at reasonable agronomic rates considering the crop, soil, climate, and irrigation management plan. The annual nutrient loading of the

Use Area, including the nutritive value of organic and chemical fertilizers and recycled water, shall not exceed crop demand.

7. Public contact with recycled water shall be controlled using signs and/or other appropriate means. Signs of a size no less than four inches high by eight inches wide with proper wording (shown below) shall be placed at all areas of public access and around the perimeter of all areas used for effluent disposal or conveyance to alert the public of the use of recycled water. All signs shall display an international symbol similar to that shown in [Attachment C](#), as part of this Order, and present the following wording:

“RECYCLED WATER – DO NOT DRINK”

“AGUA DE DESPERDICIO RECLAMADA – POR FAVOR NO TOME”

E. Sludge Specifications

Sludge in this document means the solid, semisolid, and liquid residues removed during primary, secondary, or advance wastewater treatment processes. Solid waste refers to grit and screening material generated during preliminary treatment. Residual sludge means sludge that will not be subject to further treatment at the WWTF. Biosolids refers to sludge that has undergone sufficient treatment and testing to quality for reuse pursuant to federal and state regulations as a soil amendment for agriculture, silviculture, horticulture, and land recycling.

1. Sludge and solid waste shall be removed from screens, sumps, aeration basins, ponds, clarifiers, etc. as needed to ensure optimal plant operation.
2. Treatment and storage of sludge generated by the WWTF shall be confined to the WWTF property.
3. Any handling and storage of residual sludge, solid waste, and biosolids on property of the WWTF shall be temporary (i.e., no longer than two years) and controlled and contained in a manner that minimizes leachate formation and precludes infiltration of waste constituents into soils in a mass or concentration that will violate groundwater limitations of this Order.
4. Residual sludge, biosolids, and solid waste shall be disposed of in a manner approved by the Executive Officer and consistent with Title 27. Removal for further treatment, disposal, or reuse at sites (i.e., landfill, composting sites, soil amendment sites) operated in accordance with valid waste discharge requirements will satisfy this specification.

5. Use of biosolids as a soil amendment shall comply with valid waste discharge requirements issued by a regional water board or the State Water Board or a local (e.g., county) program authorized by a regional water board. In most cases, this means the General Biosolids Order (State Water Board Water Quality Order No. 2004-12-DWQ, "General Waste Discharge Requirements for the Discharge of Biosolids to Land for Use as a Soil Amendment in Agricultural, Silvicultural, Horticultural, and Land Recycling Activities"). For a biosolids use project to be authorized by the General Biosolids Order, the Discharger must file a complete Notice of Applicability for each project.
6. Any proposed change in sludge use or disposal practice shall be reported in writing to the Executive Officer at least 90 days in advance of the change.

F. Groundwater Limitations

1. Release of waste constituents from any treatment or storage component associated with the discharge shall not cause or contribute to groundwater:
 - a. Containing constituent concentrations in excess of the concentrations specified below or natural background quality whichever is greater:
 - (i) Nitrate as nitrogen of 10 mg/L.
 - (ii) Total Coliform Organisms of 2.2 MPN/100 mL.
 - (iii) For constituents identified in Title 22, the MCLs quantified therein.
 - (iv) For Electrical Conductance, 1,600 µmhos/cm.
 - b. Containing taste or odor-producing constituents, toxic substances, or any other constituents in concentrations that cause nuisance or adversely affect beneficial uses.

G. Provisions

1. The Discharger shall comply with the *Standard Provisions and Reporting Requirements for Waste Discharge Requirements*, dated 1 March 1991, which are part of this Order. This attachment and its individual paragraphs are referred to as Standard Provision(s).
2. The Discharger shall comply with MRP No. R5-2009-____, which is part of this Order, and any revisions thereto as adopted by the Central Valley Water Board or approved by the Executive Officer. The submittal date of Discharger self-monitoring reports shall be no later than submittal dates specified in the MRP.

3. The Discharger shall keep at the WWTF a copy of this Order, including its MRP, Information Sheet, attachments, and Standard Provisions, for reference by operating personnel. Key operating personnel shall be familiar with its contents.
4. The Discharger shall not allow pollutant-free wastewater to be discharged into the WWTF collection, treatment, and disposal systems in amounts that significantly diminish the system's capability to comply with this Order. Pollutant-free wastewater means storm water (i.e., inflow), groundwater (i.e., infiltration), cooling waters, and condensates that are essentially free of pollutants.
5. The Discharger must at all times properly operate and maintain all facilities and systems of treatment and control (and related appurtenances) that are installed or used by the Discharger to achieve compliance with the conditions of this Order. Proper operation and maintenance also include adequate laboratory controls and appropriate quality assurance procedures. This Provision requires the operation of back-up or auxiliary facilities or similar systems that are installed by the Discharger only when the operation is necessary to achieve compliance with the conditions of this Order.
6. All technical reports and work plans required herein that involve planning, investigation, evaluation, or design, or other work requiring interpretation and proper application of engineering or geologic sciences, shall be prepared by or under the direction of persons registered to practice in California pursuant to California Business and Professions Code Sections 6735, 7835, and 7835.1. As required by these laws, completed technical reports and work plans must bear the signature(s) and seal(s) of the registered professionals(s) in a manner such that all work can be clearly attributed to the professional responsible for the work.
7. The Discharger must comply with all conditions of this Order, including timely submittal of technical and monitoring reports as directed by the Executive Officer. Accordingly, the Discharger shall submit to the Central Valley Water Board on or before each report due date the specified document or, if an action is specified, a written report detailing evidence of compliance with the date and task. If noncompliance is being reported, the reasons for such noncompliance shall be stated, plus an estimate of the date when the Discharger will be in compliance. The Discharger shall notify the Central Valley Water Board by letter when it returns to compliance with the time schedule. Violations may result in enforcement action, including Central Valley Water Board or court orders requiring corrective action or imposing civil monetary liability, or in revision or rescission of this Order.
8. In the event of any change in control or ownership of land or waste treatment and storage facilities presently owned or controlled by the Discharger, the Discharger shall

notify the succeeding owner or operator of the existence of this Order by letter, a copy of which shall be immediately forwarded to the Central Valley Water Board.

9. To assume operation under this Order, the succeeding owner or operator must apply in writing to the Executive Officer requesting transfer of the Order. The request must contain the requesting entity's full legal name, the state of incorporation if a corporation, the address and telephone number of the persons responsible for contact with the Central Valley Water Board and a statement. The statement shall comply with the signatory paragraph of Standard Provision B.3 and state that the new owner or operator assumes full responsibility for compliance with this Order. Failure to submit the request shall be considered a discharge without requirements, a violation of the California Water Code. If approved by the Executive Officer, the transfer request will be submitted to the Central Valley Water Board for its consideration of transferring the ownership of this Order at one of its regularly scheduled meetings.
10. As a means of discerning compliance with Discharge Specifications C.4, the dissolved oxygen (DO) content in the upper one foot of any wastewater pond shall not be less than 1.0 mg/L for three consecutive days. Should the DO be below 1.0 mg/L during a weekly sampling event, the Discharger shall take all reasonable steps to correct the problem and commence daily DO monitoring in the affected ponds until the problem has been resolved. If unpleasant odors originating from affected ponds are noticed in developed areas, or if the Discharger received one or more odor complaints, the Discharger shall report the findings in writing within 5 days of the date and shall include a specific plan to resolve the low DO results to the Central Valley Water Board within 10 days of that date.
11. The pH of the discharge to the effluent ponds shall not be less than 6.5 or greater than 8.3 pH units for more than three consecutive sampling events. In the event that the pH of the discharge is outside of this range for more than three consecutive sampling events, the Discharger shall submit a technical evaluation in its monthly SMRs documenting the pH of the discharge to the ponds, and if necessary demonstrate that the effect of the discharge on soil pH will not exceed the buffering capacity of the soil profile.
12. The Discharger shall maintain and operate all ponds sufficient to protect the integrity of containment levees and prevent overtopping or overflows. Unless a California civil engineer certifies (based on design, construction, and condition of operation and maintenance) that less freeboard is adequate, the operating freeboard in any pond shall never be less than two feet (measured vertically). As a means of management and to discern compliance with this Provision, the Discharger shall install and maintain in each pond permanent markers with calibration that indicates the water level at design capacity and enables determination of available operational freeboard.

13. The Discharger shall submit the technical reports and work plans required by this Order for Central Valley Water Board staff consideration and incorporate comments they may have in a timely manner, as appropriate. The Discharger shall proceed with all work required by the following provisions by the due dates specified.
14. The Discharger shall obtain coverage under, and comply with, Statewide General Waste Discharge Requirements For Sanitary Sewer Systems, Water Quality Order No. 2006-0003-DWQ.
15. **By 15 June 2010**, the Discharge shall install pump flow meters at each source water well in use and submit a report certifying that it has implemented measures to ensure the proper function, maintenance, and periodic calibration of these meters. The Discharger may submit an alternative for determining flow from each well to the Executive Officer for approval.
16. **By 15 June 2010**, the Discharger shall submit an adequate Title 22 Engineering Report pursuant to Title 22, California Code of Regulations, Section 60323. This provision shall be considered satisfied upon receipt by the Central Valley Water Board of written approval of this report by the California Department of Public Health.
17. **By 15 October 2010**, the Discharger shall conduct a salinity evaluation and submit a salinity minimization plan to identify and implement measures to reduce the salinity in the discharge to the extent feasible and comply with Effluent Limitation B.2. The salinity minimization plan shall include a time schedule to implement the identified measures.
18. **By 15 June 2010**, the Discharger shall submit a work plan describing its efforts to promote water conservation practices.
19. Upon completion of the WWTF upgrade as described in Finding No. 5, the Discharger shall submit engineering certification that the upgrade project has been completed as designed and that the WWTF has sufficient treatment, storage, and disposal capacity to comply with the other terms and conditions of this Order. This provision will be considered satisfied following written acknowledgement from the Executive Officer that the criteria has been met.
20. The Discharger may submit a design report certifying the WWTF has sufficient treatment, storage, and disposal capacity to comply with a monthly average discharge flow limit of 0.2 mgd. The report must be prepared by a California Registered Civil Engineer.
21. **By 15 December 2011**, the Discharger shall comply with the effluent nitrogen limitation (Effluent Limitation B.3). Alternatively, the Discharger may submit a new Report of Waste Discharge that includes a technical report that demonstrates the

performance of the effluent storage ponds. If this alternative is pursued, the performance demonstration shall establish that the pond design, along with a Nutrient Management Plan, will be protective of groundwater quality and that seepage from the ponds will not contribute to nitrogen in groundwater exceeding groundwater limitations. Any alternative shall include groundwater quality information in the storage pond and reuse area for the unconfined aquifer. This provision will be considered satisfied following written acceptance from the Executive Officer.

I, PAMELA C. CREEDON, Executive Officer, do hereby certify the foregoing is a full, true, and correct copy of an Order adopted by the California Regional Water Quality Control Board, Central Valley Region, on _____.

PAMELA C. CREEDON, Executive Officer

Order Attachments:

A Site Location Map
B Flow Schematic
C Recycled Water Signage
Monitoring and Reporting Program No. R5-2009-____
Information Sheet
Standard Provisions (1 March 2009)

DMS/DKP: 10/7/2009